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| Notice of Allowability | Application No. | Applicant(s) | |
| | 09/890,181 | LAYCOCK, MICHAEL | |
| | Examiner | Art Unit | |
| | Anthony Ojini | 3723 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. This communication is responsive to amendment filed 4/12/04.
2. The allowed claim(s) is/are 2 and 13-17.
3. The drawings filed on 12 December 2003 are accepted by the Examiner.
4. Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some* c) None of the:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) hereto or 2) to Paper No./Mail Date 4/12/04.
 - (b) including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. Notice of References Cited (PTO-892)
2. Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. Notice of Informal Patent Application (PTO-152)
6. Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. Examiner's Amendment/Comment
8. Examiner's Statement of Reasons for Allowance
9. Other _____.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with **Attorney Brian L. Ribando on June 25,2004.**

The application has been amended as follows: **claims 3,4,7,10,12** have been canceled.

The following is an examiner's statement of reasons for allowance: the art of record considered as a whole, alone or in combination, neither anticipates nor renders obvious: **with respect to claim 13**, a grinding machine comprising X and Z-axis drives for moving the wheel head relative to the workpiece parallel to the X and Z axes respectively; and a control signals for advancing the wheel head and the grinding wheel along the X and Z-axes and for causing the wheel head to advance toward and into engagement with a workpiece along a line of action which subtends an angle of less than 90⁰ to the Z-axis, the line of action being such as to simultaneously plunge grind a radial annular shoulder at an end of the workpiece and to grind a cylindrical surface adjoining the shoulder on the workpiece during a single advance of the grinding wheel towards the workpiece; **with respect to claim 14**, a computer controlled grinding machine comprising X and Z-axis drives for driving the wheel head and the grinding wheel along a selected line of action into engagement with the workpiece, the line of

action extending at angle of less than 90^0 to the axis of rotation of the workpiece, so that ungrounded material forming part of a cylindrical surface of the grinding wheel and an adjoining radial end face of the workpiece can be ground by the circular face of the grinding wheel in a single plunge grind, in which the wheel head moves along the said line of action into engagement with the workpiece and away therefrom after grinding; **with respect to claim 15**, a grinding machine comprising an X-axis drive for advancing and retracting the wheel head parallel to the X-axis, the grinding wheel axis of rotation remaining parallel to the Z axis as the wheel head moves parallel to the X axis; a Z-axis drive for moving the carriage and the workpiece parallel to the Z-axis; and, X and Z-axis drive control signals for the X and Z-axis drives to produce simultaneous movement of the wheel head and workpiece such that the movement of the wheel head relative to the workpiece is along a line of action which subtends an angle with the Z-axis which is less than 90^0 , the external cylindrical surface of the grinding wheel engaging the workpiece to remove material from the cylindrical surface of the workpiece, and an adjoining circular face of the grinding wheel engaging a radial shoulder of the workpiece to grind the radial shoulder to size as the wheel head is advanced along the said line of action; and **with respect to claim 16**, the grinding wheel being mounted for rotation about an axis which is parallel to the workpiece axis of rotation, the grinding machine advancing the wheel head and the workpiece carriage along the first and second axes to produce a net movement of the wheel head relative to the workpiece along a line of action which subtends an angle of less than 90^0 , relative to the axis of rotation of the workpiece.

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Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Ojini whose telephone number is 703 305 3768. The examiner can normally be reached on 7 to 4 Tuesday-Friday with every other Monday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Hail can be reached on 703 308 2687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Joseph J. Hail, III
Supervisory Patent Examiner
Technology Center 3700

AO
May 19, 2004

